

# ABSTRACT

The rotor position of a synchronous motor is determined, in that for a plurality of current vectors distributed over one electrical rotation of the synchronous motor, the amount of the current vector which is necessary to attain a defined deflection of the rotor is determined. The position of the rotor may be calculated from the position of the minima of the amounts thus determined, taking into account the direction of rotation of the rotor. The engagement of a brake may ensure that grooving forces and machine vibrations play no role for the method to determine the rotor position.